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09/912,418	07/26/2001	Tilman Haug	225/50220	4254

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13

EXAMINER
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BLACKWELL RUDASIL, GWENDOLYN A

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 07/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/912,418

Applicant(s)

HAUG ET AL.

Examiner

Gwendolyn A. Blackwell-Rudasill

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 12-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-11 is/are rejected.
- 7) ☒ Claim(s) 1-7 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments, see page 6, filed April 3, 2003, with respect to claims 8-11 have been fully considered and are persuasive. The 102(e) rejection of claims 8-11 has been withdrawn.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless –*

*(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

3. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 5,100,486, Krikorian et al.

Krikorian et al disclose a coating on a metallic surfaces wherein the coating comprises a flux and a metal coating material wherein the material comprises one or more metals, metal alloys, or mixtures of the same that is capable of reacting with the metal surface of the substrate, meeting the requirements of claim 1, (column 3, lines 32-56). The substrate can be made of ferrous metal as well as cobalt, nickel and their alloys, and other non-ferrous transition or refractory metals, meeting the requirements of claim 5, (column 5, lines 13-25).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 6,051,277, Claussen et al in view of United States Patent no. 5,309,874, Willermet et al.

Claussen et al disclose an oxide containing perform that can be a layer is reacted with molten Al or an Al alloy such that the product contains alumina and aluminide. Titania and titanates can be reduced by aluminum, (column 4, lines 16-53). Besides the required components, further ceramic and/or metallic phases can be added to the powder mixture to make the perform, (column 4, lines 59-63). After heating the perform, an alumina rich surface layer can be formed with an intermetallic region containing an aluminide as well as the alumina.

Art Unit: 1775

Adjusting the annealing time and temperature will obtain the desired microstructure for the intermetallic and if applicable metallic phase has been formed, (columns 6-7, lines 51-36). This ceramic can be used on metal surfaces, (column 8, lines 27-30). Claussen et al do not specifically disclose the metal substrate the perform can be placed upon.

Willermet et al disclose a substrate, such as aluminum, aluminum-silicon alloy, titanium, titanium-aluminum alloys, and ferrous alloys, that have an interlayer and film formed on the surface that creates a wear resistant coating system. The interlayer can have a graded or varying composition that can improve the adherence of the interlayer to the metal substrate, (column 3, lines 5-10).

Because the inventions of Claussen et al and Willermet et al are to coatings that can be used on engine components, it would have been obvious to one skilled in the art at the time of invention to modify the invention of Claussen et al with one of the metallic substrates of Willermet et al to create an engine component that has improved tribological, thermomechanical, and chemical properties, (Claussen, column 8, lines 24-27).

***Allowable Subject Matter***

7. Claims 8-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8-11 disclose limitations wherein the transition layer contains aluminum titanates and aluminum oxide. None of the prior art of record teach or suggest utilizing such a transition layer as exemplified by Applicant.

Art Unit: 1775

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn A. Blackwell-Rudasill whose telephone number is (703) 305-9741. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gwendolyn A. Blackwell-Rudasill  
Examiner  
Art Unit 1775

*GBR*  
gbr

June 30, 2003

*Deborah Jones*  
DEBORAH JONES  
SUPERVISORY PATENT EXAMINER